

Living With
Beavers
in King County



King County Wildlife Program
Publication

Department of Natural Resources
Water & Land Resources Division

How do Beavers Live?

Beavers have lived in King County since the last ice age. These furry, industrious animals have submerged mountain valleys, changed stream courses, raised water tables, and made new habitat for plants, fish and waterfowl. Demand for beaver pelts helped spur on rapid European colonization of this continent. As a result, beavers nearly became extinct in the late 1800s. Now that the demand for beaver pelts has declined, their numbers are increasing. Habitat loss is the biggest threat to beavers today.

What is a Beaver

Beavers (*Castor canadensis*) are the largest member of the rodent family in North America. They are found from sea level to elevations of 12,000 feet. These semi-aquatic mammals can weigh up to 60 pounds. They have webbed hind feet, large incisor teeth, and a broad, flat tail. The tail serves as a prop when the beaver stands upright, a rudder when swimming, and when slapped against the surface of the water, a signal to alert other beavers of danger. Beavers do not use their tails to plaster mud on their dams.



Beaver Habitat

Beavers, just like people, change the environment to suit their needs. In the process, beavers make homes for many other animals and plants. Beavers create new habitat for wildlife and sun-loving plants. Mink, raccoons and herons hunt frogs and other prey along marshy edges of beaver ponds. Migratory birds find nesting and brooding sites and rest stops during migration. Fish, reptiles and amphibians overwinter in the deep beaver ponds. Dead trees, with their populations of insects, support woodpeckers whose holes provide homes for many other species.

What Beavers Eat

Beavers eat the leaves, bark and twigs of aspen, poplar, birch, alder, cottonwood, willow and ash. In the spring, beavers will also eat skunk cabbage sprouts and roots, grasses, sedges, ferns, and water plants. In mid summer they add protein-rich algae to their diets. If faced with starvation, beavers will eat coniferous trees.



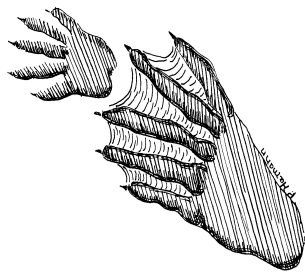
Why Beavers Build Dams

Beavers build dams and canals in order to create deep water near their food source, for safety, and to facilitate the transport of tree limbs. Beavers are not fighters. Their lumbering gait makes them vulnerable to predators. To escape, beavers head for water where their excellent swimming abilities afford them better protection. At top speeds, beavers can swim 6 miles per hour.

To construct a dam, beavers place logs on the stream bed with the cut ends upstream and anchor them with mud and rocks. As the beavers plug the holes with soil and vegetation, the dam begins to hold water. Beavers will build dams out of whatever materials are at hand: wood, stones, mud, or crop residue.

A Beaver's Home

Once their pond is 3 or more feet deep, beavers construct a lodge. After piling rocks, mud and tree limbs up to 8 feet high, beavers dig 2 or more underwater entrances into the stack. Tunnels converge at living quarters hollowed out in the center of the structure. The first platform is several inches above the water. Here beavers feed and let the water drain out of their fur before climbing 8 to 10 inches up to the sleeping level. There they sleep curled up together on bedding of shredded wood fibers. The lodge's sides are coated with mud, making the structure waterproof and weather tight. The top of the lodge is left mud free for ventilation. Where streams are fast moving, beavers dig a den in the bank instead of making a lodge.

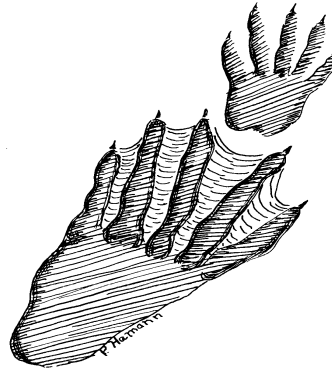


All in a Year's Work

Beavers build new dams in the spring. In the fall beavers repair the dam and store food for the winter. The dam must be high to hold enough water to keep the pond from freezing solid to the bottom. If the water freezes completely the beavers starve, since they can not reach their cache of branches which are anchored to the floor of the pond with mud. The family needs 1 to 2 tons of vegetation to survive the winter.

Mating and Breeding

The beaver family includes the young of the current and previous year. Adults mate in February and two to four kittens are born in May. By June, the kittens forage for grasses and weeds at the water's edge. They remain with the family for two winters. Then, when sexually mature, they leave the lodge to establish a colony of their own. Adult beavers may shift up or downstream in their search for food, and may even journey long distances overland to find a new home.



Sights, Sounds and Smells

Look for beaver tracks like those below. Marks from the webbing of the hind feet may be visible. Beaver tracks are often rubbed out by their tail as it drags behind, so look hard!

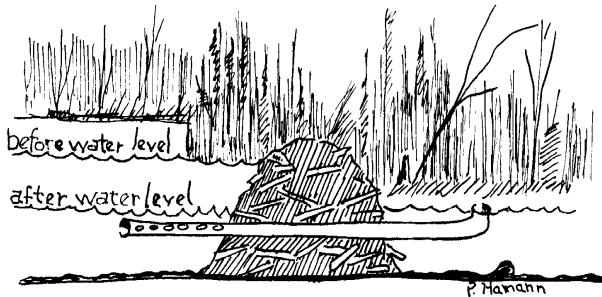
Beavers talk to one another constantly. When feeding outside the lodge, the family members murmur incessantly. Angry beavers hiss.

Beavers also communicate with scent. They excrete a sweet smelling oil called castoreum onto piles of mud to mark territory and to convey information on their health, diet and breeding status to other beavers. Castoreum is used as a base in some perfumes.



Compromising with Beavers

Despite your appreciation for these remarkable animals and your best intentions to live along side them, beavers can become a nuisance if their feeding requirements and dam building instincts endanger your property. However, **it is illegal to kill beavers in King County without a trapping permit from the state, and it is illegal to remove beaver dams without the appropriate permits from the state and King County.** There are a number of techniques which may allow you to live with these animals in harmony.



Trickle Levelers

When beavers build dams the water level rises, which may flood property or cause a rise in the water table underground. In either case, beaver activity can damage roads, public property, septic systems, basements, etc. A mild alteration of the height of a beaver pond is permitted using a trickle leveler.

A perforated pipe is placed through the dam. The current created by the pipe's many intake holes is so small it goes undetected by the beavers. **Installation of trickle levelers is complicated and requires careful research.**

Fencing

If beavers are eating your trees, a four-foot high fence of heavy wire mesh placed around the trunk and dug one foot into the soil will discourage them.

Live Trapping

Other options include live trapping and relocation, which requires a permit from the WA Department of Fish and Wildlife. Relocation is not often successful since other beavers move into the site.

Regulations for Trickle Levelers

Since trickle levelers change the water level of a beaver pond, you must acquire a Hydrologic Project Application (HPA) from the state Fish and Wildlife Department. They also provide information and technical advice for installing a trickle leveler. You should also consult with the King County Department of Development and Environmental Services (DDES) to see if you need to apply for a variance from the Sensitive Areas Ordinance. If you clear, grade, fill, excavate in a wetland, or alter an historical wetland, you will need a permit from King County.

Remember:

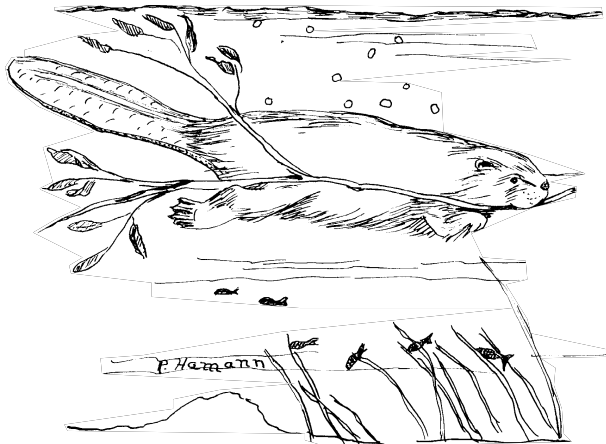
- ♦ you need a permit to do any kind of trapping,
- ♦ a Hydrologic Project Application is required before installing a trickle leveler, and
- ♦ you must adhere to the Sensitive Area Ordinance regulations of King County.

Who to Call

For a trapping permit of any kind, or for a **Hydrologic Project**

Application, contact your Area Habitat Biologist at the WA Fish and Wildlife Department at (206) 775-1311, or write 16018 Mill Creek Blvd., Mill Creek, WA 98012.

For information on the **Sensitive Area Ordinance**, call King County DDES at (206) 296-6610.



Where to see Beavers

Northwest Trek Wildlife Park, Eatonville, WA, has 600 acres of Northwest wilderness and native North American animals. The beavers are in an enclosed area and are readily visible. Call (206) 832-6117 or 1-800-433-8735.

Learn More About Beavers

Living with wildlife is an enjoyable part of being a resident of King County. The key to coexisting with wildlife is to understand them. You can learn more about beavers from these books:

The American Beaver: a Classic of Natural History and Ecology, 1986, by Lewis H. Morgan, Dover Publications, Inc., New York, NY. (This is a republication of an 1868 book: *The American Beaver and His Works*.)

Furbearing Animals of North America, 1981, by Leonard Lee Rue III, Crown Publishers, Inc., New York, NY.

Going Wild in Washington and Oregon: Seasonal Excursions to Wildlife and Habitats, 1993, by Susan Ewing, Alaska Northwest Books, Portland, OR.

Heritage from the Wild: Familiar Land & Sea Mammals of the Northwest, 1985, by M. Douglas Scott and Suvi A. Scott, Northwest Panorama Publishing, Inc., Bozeman, MT.

Little Mammals of the Pacific Northwest, 1977, by Ellen